A Report to the President

# Medical Care Prices

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## A Report to the President on

# Medical Care Prices

**By the Department of Health, Education, and Welfare**

**February 1967**

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THE SECRETARY OF HEALTH, EDUCATION, AND WELFARE
WASHINGTON

February 28, 1967

MEMORANDUM FOR THE PRESIDENT

Last August, you asked me to study the reasons behind the rapid rise in the price of medical care and to offer recommendations for moderating the rise. In response to your request, I am transmitting herewith a Report on Medical Care Prices. The Report was prepared by Assistant Secretary William Gorham of this Department with the assistance and advice of the Department of Labor and the Council of Economic Advisers.

Medical prices have been rising for many years at a rate substantially in excess of the rise in the general price level. Like other prices, medical care prices accelerated in 1966. The Bureau of Labor Statistics Index of Medical Care Prices rose 6.6 per cent in 1966. Hospital room rates rose even more precipitously.

The Report attributes these price rises to the pressure of the rising demand for medical services, the relatively slow growth in the supply of physicians, rising wage costs in hospitals without commensurate increases in productivity, and the increasing complexity of medical care provided to the patient.

The Report holds out little hope for an early end to medical price increases. Growing population and rising incomes, as well as the public commitment to assure adequate medical care for all citizens, will continue to put upward pressure on medical prices.

Nevertheless, steps can be taken to moderate the rise in medical prices by using medical resources more efficiently. To this end, the Report recommends:

1. The establishment of a National Center for Health Services Research and Development to discover and disseminate new ways of delivering health care efficiently.

2. The encouragement of the group practice of medicine.

3. Strong Federal support for State and area-wide planning for the efficient use of health resources.

4. Re-examination of the reimbursement formulas under Medicare and Medicaid in an effort to design formulas which increase the incentives to health institutions to operate efficiently.

5. The appointment of a Presidential commission to review Federal programs of support for health institutions with an eye to the efficient distribution of such institutions.

6. Training and use of physician assistants and other innovations in medical education and the efficient use of medical manpower.

7. A study of frequently prescribed drugs to determine the relative therapeutic value of brand name products and other drugs with the same generic name.

Implementing these recommendations will demand the concerted efforts of the medical community, the insurance industry, State, local, and Federal officials, and concerned public groups.

John W Gardner

Secretary

## FOREWORD

This Study represents the collective efforts of many people. It was prepared in my Office, under the supervision of Alice M. Rivlin, by Jeffrey Weiss and Douglas Wilson, with the assistance of Robert Turtle.

Substantial contributions to the data and analysis were received from the Bureau of Labor Statistics, especially Arnold E. Chase and his staff; the Public Health Service, especially Agnes Brewster and her staff; and the Social Security Administration, especially Ida Merriam and her staff. Ideas and advice from the Council of Economic Advisers, the Department of Labor, the Department of Justice, and many parts of the Department of Health, Education, and Welfare are reflected in the Report.

Rashi Fein of the Brookings Institution and several other experts outside the Government were extremely helpful.

William Gorham

William Gorham
Assistant Secretary
for Program Coordination

# CONTENTS


**Part I—Summary and Recommendations**

SUMMARY — Page

Cause for Concern — 1
Why Doctors' Fees Are Increasing — 1
Why Hospital Charges Are Rising — 2
Drug Prices — 2
Future Price Movements — 3

RECOMMENDATIONS

Encouraging Alternatives to Hospital Care — 3
Planning for Health Facilities and Services — 5
Improving the Internal Efficiency of Hospitals and Other Providers of Health Services — 7
Increasing the Supply and Improving the Utilization of Health Manpower — 9
Improving the Knowledge and the Flow of Information on the Effectiveness of Drugs — 10
A Continuing National Effort To Improve the Efficiency of Medical Care Delivery — 10

**Part II—Medical Care Price Trends**

The Medical Care Component of the Consumer Price Index — 13
Medical Care Prices and Total Consumer Expenditures — 13
Trends in the Medical Care Price Index — 14
Components of the Medical Care Price Index — 15
The Recent Acceleration in Medical Care Prices — 15

**Part III—Physicians' Fees**

Supply, Demand, and Doctors' Fees — 19
The Rapid Growth of Demand — 20
The Slower Growth of the Supply of Physicians — 21
Estimates of Physician Productivity — 21
Explanation of Rising Physicians' Fees — 23
Changes in the Level of Physicians' Fees During 1966 — 23
Outlook for the Future — 24

**Part IV—Hospital Costs and Charges**

The Hospital Sector of the Economy — 27
Hospital Costs — 28
Nonwage Costs — 30
Reasons for the Accelerations in Hospital Charges — 31
The Productivity Problem — 31
The Increasing Demand for Hospital Services — 32

**Part V—Drug Prices**

Consumer Expenditures on Drugs — 35
Reasons for Concern About the Cost of Drugs — 36

**Appendix—Medical Care Price Components of the CPI** — 38

# Part I. Summary and Recommendations

## Cause for Concern

The price of medical care rose rapidly in 1966:

The Bureau of Labor Statistics index of medical care prices rose 6.6 percent.

The index of hospital daily room rates went up 16.5 percent.

Increases of this magnitude cause severe hardship to individuals in need of medical care, whether they pay the prices directly or indirectly through higher insurance premiums. Medical price increases make Government-financed medical care programs more expensive for the taxpayer.

There is nothing new about rising medical prices.

Since World War II, medical prices have been rising considerably faster than consumer prices generally. But the 1966 increases were the largest in many years.

The purposes of this report are to—

- identify the causes of the longrun upward trend and the recent acceleration in medical prices;
- estimate what is likely to happen to medical prices in the future; and
- recommend Government actions to moderate the price rise and to encourage greater efficiency in the delivery of medical care.

## Why Doctors' Fees Are Rising

More people are seeking doctors' services more often.

Increases in population, rising personal income, wider private and public insurance coverage, and other factors contribute to rapid increases in demand for physicians' services.

The number of active physicians is rising relatively slowly.

Between 1950 and 1965, the number of family physicians (pediatricians, internists, and general practitioners) actually declined.

In the face of rising demand for their services, physicians have been—

- seeing more patients per week; and
- raising their fees.

Physicians' fees—like many other prices—accelerated in 1966.

The Bureau of Labor Statistics index of physicians' fees, which had been increasing less than 3 percent per year in the period 1960–65, rose almost 8 percent in 1966.

Much of this increase was to be expected in view of the general inflationary pressures in the economy this year. In the past, doctors' fees have risen about twice as fast as the consumer price index. In 1966, the consumer price index rose 3.3 percent.

There is no evidence that medicare was a major factor in the rise in doctors' fees.

## Why Hospital Charges Are Rising

The cost of providing hospital care is rising rapidly.

Wages, which account for two-thirds of total hospital costs, are the most important factor.

The wages of hospital employees, still low relative to other sectors of the economy, are rising more rapidly than other wages.

This increase in wages has not been offset by any measurable increase in the "productivity" of hospital employees. The number of employees per patient is rising, not falling.

Nonwages costs of hospitals are also rising, reflecting the growing complexity of hospital plant and rapid increases in the specialized care facilities available in hospitals.

The 1966 acceleration was primarily related to—

- rising wages in a tight labor market; and
- increases in the prices of things hospitals buy.

Although medicare raised hospital occupancy rates in many places, increased occupancy does not generally lead to higher costs per patient. However, participation in medicare required hospitals to reexamine their costs and charges. In the course of this reexamination, many hospitals probably decided to increase their charges.

## Drug Prices

Drugs contribute to the high cost of medical care, although they have not contributed significantly to recent price increases.

The use of drugs is increasing, and many consumers are conscious of an increased burden of drug expenditures not generally covered by insurance.

Drug prices are higher than they would be if there were more vigorous price competition at either the manufacturing or drug store level. Advertising costs are high and doctors often prescribe costly brand name drugs when cheaper equivalents are available.

### Future Price Movements

Continued increases in the price of medical care are inevitable. The question is not whether medical prices will rise in the future, but how fast they will rise.

Forces which have been pushing up demand in the past—population increase, rising income, increasing insurance coverage—will continue to exert pressure.

Moreover, a new element has been introduced: rising public conviction that excellent medical care should be available to all Americans.

> The passage of medicare and medicaid are evidence of this new conviction.
>
> Charity medicine is being abandoned in favor of new public programs which give needy people the resources to purchase medical care from private physicians and hospitals on the same basis as more affluent citizens.

These new demands add to the upward pressure on medical prices.

There are two means of moderating increases in medical prices:

- adding to the supply of medical resources by increasing medical facilities and training more medical manpower; or
- increasing the efficiency with which medical resources are used.

Federal resources are devoted to a wide variety of programs designed to increase the supply of medical resources. The President's Commission on Medical Manpower is reviewing the adequacy of all Federal programs affecting manpower supply.

This report concentrates on steps that can be taken to use medical resources more efficiently.

The recommendations which follow are designed to increase the effectiveness of medical care delivery in order to moderate future price increases and make it possible to meet the rising demand for medical care.

## ENCOURAGING ALTERNATIVES TO HOSPITAL CARE

Hospital services are the most costly form of medical care. The average cost of a day in the hospital is about $45. To protect themselves against these high costs, most people presently have hospitalization insurance.

Far fewer people have insurance which covers less expensive medical care services, such as care in nursing homes and convalescent hospitals, outpatient care, or organized home health services. Hence, doctors often put patients in hospitals for diagnosis or treatment rather than utilizing less expensive alternative services because a third party will pay the hospital bill.

Many people are hospitalized unnecessarily: some for unnecessary surgery, some for conditions which better or more timely medical care would have prevented, some because they have no other place to go. Much of the care given in hospitals could be given less expensively outside, but lower cost alternatives are unavailable in many communities.

**Recommendation**

*Comprehensive community health care systems should be developed, demonstrated, and evaluated.*

The Federal Government should take the lead by creating a National Center for Health Services Research and Development in the Department of Health, Education, and Welfare.

1. The center would offer technical assistance and financial support for the development of model comprehensive systems.

   These model systems would make available intensive care, hospital care, extended or convalescent care, nursing home care, outpatient care, and organized home health services. Doctors would be encouraged to choose the least costly appropriate service for their patients.

   The costs and effectiveness of such model systems would be evaluated and the results widely publicized.
2. The center would undertake research dealing with the medical care system and support such research in industry, universities, health services, institutions, and areawide planning groups.
3. The center would serve as a clearinghouse for information and would disseminate the results of research on medical care delivery.
4. The center would support the training of health planners, systems analysts, health economists, and other specialists in methods of improving the efficiency of health care delivery.
5. The center would make the services of such specialists available for consultation with communities and health institutions seeking to improve medical care delivery systems.

**Recommendation**

*Group practice, especially prepaid group practice, should be encouraged.*

Groups of doctors practicing together can make more efficient use of equipment, auxiliary personnel, and consultation than doctors practicing alone. Where the patient has paid in advance for comprehensive medical care under a group practice plan, less incentive exists to use high-cost hospital services where lower cost alternatives would meet the patient's needs just as well.

1. The Federal Government should encourage group practice prepayment plans by amending title XIX of the Social Security Act to require States to allow medical beneficiaries to use such plans.
2. The Department of Health, Education, and Welfare should encourage the States to use title XIX funds to foster and extend the group practice of medicine.
3. The National Center for Health Services Research should provide "seed money" to encourage incipient group practice prepayment plans and to evaluate their ability to provide quality care efficiently.
4. The Department of Housing and Urban Development and the Department of Health, Education, and Welfare should make maximum use of the Group Practice Facilities Mortgage Guarantee Program.

### Recommendation

*Private and public health insurance plans should be broadened to include more alternative types of medical care.*

The Federal Government has already taken major steps in the direction of comprehensive health insurance coverage. Medicare beneficiaries are covered not only for hospital care, but for diagnostic services in outpatient clinics, stays in extended care facilities, and home health care services, as well as physicians' office visits. Title XIX beneficiaries are similarly intended to be the recipients of comprehensive health care.

Other groups in the population can be expected to seek more comprehensive health coverage. This development should be encouraged by the carriers, by the States, and by the Federal Government.

- The Department of Health, Education, and Welfare should—confer with representatives of the health insurance industry, State officials, labor, management, and public representatives on ways of moving toward more comprehensive coverage;
- develop, with the assistance of insurance experts and others, model State laws to encourage or require comprehensive health insurance coverage.

## PLANNING FOR HEALTH FACILITIES AND SERVICES

Uncoordinated development of health services and facilities often leads to costly duplication and underutilization of facilities, as well as to serious gaps in the availability of health services. Most communities have no mechanism for health planning. There is nothing to prevent two nearby hospitals from installing the same rarely used

special facility, the construction of a hospital or nursing home in an area already well served, or the perpetuation of several inefficient facilities where replacement with a modern health center would be preferable.

The Comprehensive Health Planning and Public Services Amendments of 1966 (Public Law 89–749) authorized grants for state- and area-wide planning for comprehensive health services, health manpower, and health facilities. In addition to promoting and assuring the highest level of health attainable for every person, this planning activity is intended to coordinate existing and planned health services, to reduce overhead costs by increasing utilization rates, to prevent unnecessary expansion of hospital beds, and to encourage expansion of less costly services and facilities. It will also encourage the development of needed facilities which are not now available and improve the quality of medical care.

**Recommendation**

*The States should move quickly to establish and support strong health planning agencies at the State and local levels.*

1. Where they have not yet done so, State Governors should designate a comprehensive health planning agency to carry out the purposes of Public Law 89–749 and assure that agency adequate powers and staff to carry out its mission.
2. States should enact legislation providing for a State system of area planning bodies with the power to affect the rate of expansion of health facilities in the community and to set standards of service.

   These bodies, operating under the aegis of the statewide planning agency, would have the power to prohibit construction or expansion of health facilities where such construction or expansion conflicted with the development of an efficient system of health care delivery for the community. They should have the power to close substandard facilities.

**Recommendation**

*The Federal Government should actively assist and support health planning at the State and local levels.*

1. The Federal Government should implement Public Law 89–749 by providing funds to help staff state- and area-wide planning agencies.
2. The Surgeon General should review the State plans submitted under Public Law 89–749 to make sure maximum attention has been given to efficiency in the development and provision of health services.

3. The Federal Government should require that grants to State and local governments for health purposes be spent in accordance with these plans and should deny funds for construction or expansion to health institutions which refuse to comply with the directions of the State or area planning agency.
4. The Federal Government should require that money paid to the providers of medicare services as reimbursement for depreciation costs must be held in a separate account to be used only for capital expenditures consistent with the overall plan of the State or area planning agency.
5. The National Center for Health Services Research and Development should evaluate the effectiveness of area planning as a means of reducing medical costs.
6. The President should appoint a commission to review all Federal programs for the construction, expansion, and modernization of health and medical facilities and to advise him on the future direction and scope of such programs and their potential role in moderating the rising trend in the cost of medical care.

   The expiration of the Hill-Burton Act in 1969 makes imperative a thorough reexamination of Federal policy toward health facility construction, expansion, and modernization.

   The commission should have all types of medical facilities within its purview, including: hospitals, extended care facilities, nursing homes, mental hospitals, community mental health centers, and neighborhood health centers. It should reexamine needs for these facilities and recommend a Federal strategy for assuring efficient distribution and utilization of facilities and coordination of Federal programs with State and local planning.

## IMPROVING THE INTERNAL EFFICIENCY OF HOSPITALS AND OTHER PROVIDERS OF HEALTH SERVICES

At present, hospitals have inadequate incentive to be efficient. They are not under strong pressure from patients, because a substantial part of patients' bills are paid by third parties. Third parties have usually reimbursed hospitals for costs incurred without pressing for greater efficiency. Hospital administrators often lack the training required for effective management. The medical staff of the hospital often presses the hospital administrator and board of trustees for acquisition of the latest medical equipment without regard to the cost implications involved. Trustees are often subject to the pressures imposed on them by the community and the medical staff.

Even where the incentive does exist, initiation and application of cost-reducing innovation is often beyond the resources of an individual institution.

**Recommendation**

*Cost-reducing methods of reorganizing the delivery of services in hospitals and other providers of health services should be developed, demonstrated, and implemented.*

1. The National Center for Health Services Research and Development should support research directed at improving the internal operation of health services facilities and disseminate the results of its research projects. Special emphasis should be placed upon the development of new methods of organization and more efficient patterns of staffing in health facilities.
2. The center, in conjunction with area planning agencies, should undertake an active program of technical assistance to health facilities and institutions to promote effective application and implementation of cost-reducing innovations.
3. Government hospitals and other Government health facilities should be used to demonstrate new methods of construction and delivery of services.
4. Loans and grants should be made available to finance cost-reducing innovations in non-Federal health institutions and facilities.

**Recommendation**

*The Department of Health, Education, and Welfare should review the reimbursement formulas used in medicare and medicaid in an effort to find practical ways of increasing the incentives for hospitals and other health facilities to operate efficiently.*

The present medicare reimbursement scheme, based on "reasonable cost," does not provide hospitals and other health facilities with adequate incentive to be efficient. The medicare and title XIX reimbursement formulas, as well as the reimbursement formulas of some private insurance plans, tend to maintain institutions that are inefficient in size, plant layout, and equipment.

Two examples of reimbursement plans that might be considered are: cost-plus-incentive-fee approaches in which the institutions' demonstrated efficiency would determine the amount of an allowable growth factor; or a fixed-price approach in which the institution prices its services in advance and then gains or loses depending on its ability to control costs. In either case, detailed standards of service would have to be specified.

## INCREASING THE SUPPLY AND IMPROVING THE UTILIZATION OF HEALTH MANPOWER

This study has not examined the demand for or supply of particular types of health manpower. Detailed recommendations will be made by the President's Commission on Health Manpower.

It is clear, however, that the demand for physicians will far outrun supply unless ways are found to use physicians more efficiently. The need is particularly acute in child health. About 15 million children in low-income areas are receiving little care. With current methods of delivery, providing comprehensive care for these children would require the services of about 15,000 doctors. However, many functions now performed by physicians could be performed just as effectively by less-highly trained personnel supervised by a physician. The use of physician assistants would reduce both the number of additional doctors needed and the costs of providing care.

### Recommendation

*Federally supported health care programs should be used to train physician assistants, evaluate their performance, and disseminate the results.*

Large-scale use of assistants in actual care programs will be necessary. Training programs alone will not suffice, because jobs will not be available to such medical personnel until their usefulness and acceptance by patients and doctors have been demonstrated on the job.

Legal obstacles to the employment of physician assistants should be examined and model State laws developed.

### Recommendation

*Federal funds available under the Health Professions Educational Assistance Amendments of 1965 should be used to support and encourage innovations in health professions' education and training which promote the efficient practice of medicine.*

At present, medical educators are considering a variety of innovative changes in both undergraduate and graduate medical education programs. Although improvements in the quality of medical schools and teaching hospitals are of paramount interest, the rising prices of physicians' services can be moderated through innovations in medical education designed to: (1) shorten the length of training programs without a reduction in their quality; and (2) train physicians to utilize ancillary personnel effectively and to organize their own medical practices efficiently.

## IMPROVING THE KNOWLEDGE AND THE FLOW OF INFORMATION ON THE EFFECTIVENESS OF DRUGS

Although drugs are not contributing significantly to the rising price of medical care, there is evidence that they are higher than they would be if there were more vigorous price competition in the industry either at the manufacturing or at the retail level, and more knowledge on the part of doctors about the costs and effectiveness of drugs.

**Recommendation**

*The Department of Health, Education, and Welfare should undertake an intensive examination of frequently prescribed drugs to assess the therapeutic effectiveness of brand name products and their supposed generic equivalents.*

Doctors often prescribe costly brand name products when equivalent drugs could be made available to the patient at lower cost under the generic name. Requiring generic prescribing under Government programs, however, will not be possible until doubts are resolved about whether certain drugs with the same generic name are actually equivalent in therapeutic value.

**Recommendation**

*The Food and Drug Administration should provide doctors with authoritative information on the efficacy and side effects of all new drugs.*

Doctors get much of their information about the efficacy of drugs from the manufacturer. There exists no official compendium which a doctor can consult for information about the efficacy of a drug. Preparation and distribution of such a compendium might reduce advertising outlays of drug manufacturers. It would make it easier for doctors to prescribe the least expensive appropriate drug for their patients.

## A CONTINUING NATIONAL EFFORT TO IMPROVE THE EFFICIENCY OF MEDICAL CARE DELIVERY

The rise in medical prices is not a temporary phenomenon. Upward pressure on medical prices is likely to continue for many years. Measures to assure that all citizens receive good care will increase that pressure. Their success will depend in part on a serious and comprehensive national effort to use medical resources efficiently. The Federal Government can contribute leadership and offer incentives, but it cannot make a major impact on the efficiency of medical care de-

livery without the cooperation of the medical profession, the hospital industry, insurance carriers, State and local governments, and many other public and private groups.

**Recommendation**

*The Department of Health, Education, and Welfare should call a national conference on medical costs.*

Leaders of the medical community and concerned public representatives should be called together to discuss implementation of the recommendations of this report and cooperative efforts to improve medical care services and control medical costs.

**Recommendation**

*The Department of Health, Education, and Welfare, in cooperation with the Department of Labor and others, should continue to monitor and attempt to explain medical price behavior.*

The studies undertaken for this report revealed many gaps in our knowledge of what has happened to medical prices and what determines their movement.

Statistics on medical prices should be improved; indexes of medical productivity should be developed; and the search for an understanding of the determinants of medical price and cost behavior should be pursued.

# II. Medical Care Price Trends

## The Medical Care Component of the Consumer Price Index

This section examines the rise in medical care prices through the years and in the recent past. The main source of information is the Consumer Price Index (CPI) prepared by the Bureau of Labor Statistics. The BLS obtains prices on a wide variety of items customarily purchased by urban wage earners and clerical workers, weighting these items by their importance in a typical city worker's family budget. Among the items for which prices are obtained are several types of medical and surgical procedures and hospital services, as well as a variety of drugs. These medical care components of the CPI constitute the major source of data on medical care prices in the United States.

Some limitations of these data should be borne in mind in interpreting their movements. First, there is the quality problem, common to all price indexes. A visit to a doctor, or a day in the hospital is not a homogeneous product. The quality and effectiveness of care received by a patient in a day or a visit varies tremendously. Since the quality and effectiveness of care are undoubtedly rising over time, the medical care component of the CPI overstates the actual long-run increase in medical care prices. Moreover, the average consumer of medical care is not as interested in the price of a visit or a hospital day as he is in the total cost of an episode of illness. The cost of a particular illness may be rising faster or slower than the price index for medical care, depending on the amount, quality, and price of the medical care provided.

## Medical Care Prices and Total Consumer Expenditures

Consumer expenditures for medical care reflect both the quantity of care purchased and its price. Price increases reduce the amount of care that can be purchased for a given dollar expenditure.

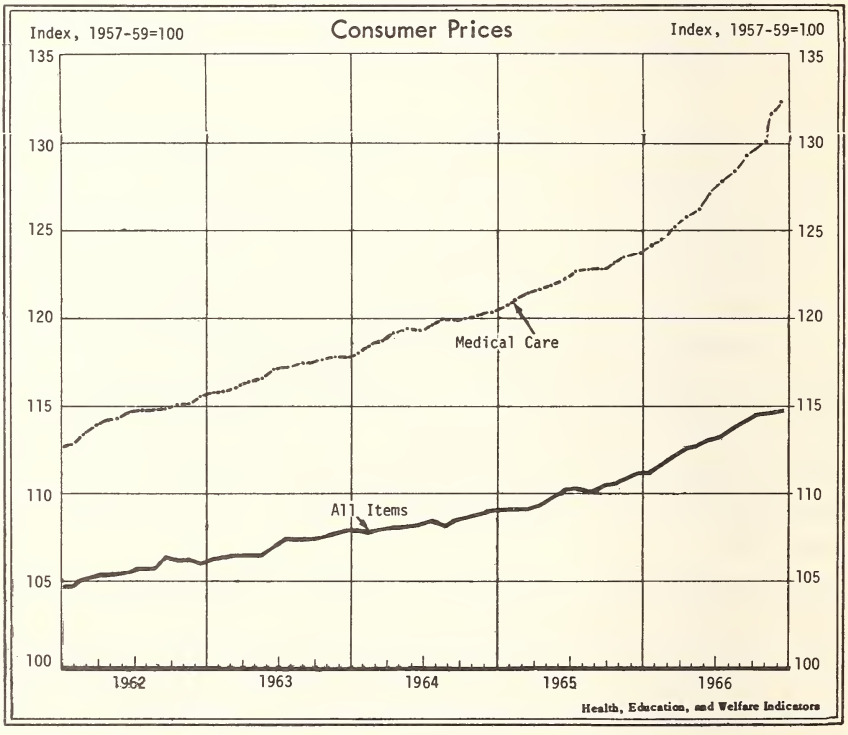
In 1950, consumer expenditures on medical care were 4.1 percent of disposable income. By 1964, the ratio had risen to 5.7 percent. Demographic factors and changes in consumer preferences (in part, the result of the improved quality of medical care) undoubtedly contributed to this increase. But a major factor in rising expenditures for medical care has been the rise in medical care prices.

If, in the period 1950–64, the Medical Care Index had increased at the same rate as the Consumer Price Index, instead of over twice as fast, the quantity of medical care purchased in 1964 would have cost $19.7 billion rather than $24.8 billion. This would have represented about 4.5 percent of income after taxes.

The relatively rapid rise in medical care prices has resulted in an increase in the proportion of income devoted to medical care and a probable reduction (over what would otherwise have taken place) in the quantity of care consumed by the public.

### Trends in the Medical Care Price Index

Both the Consumer Price Index and its medical care component have been rising continuously for 25 years. Their rates of increase, however, have differed. Since the end of World War II, medical prices have been increasing considerably faster than consumer prices generally, as the following decade figures show:




**Percentage Increase in Components of the Consumer Price Index**

| Period | Medical care | All items |
|---|---|---|
| 1936 to 1946 | 22 | 41 |
| 1946 to 1956 | 51 | 39 |
| 1956 to 1966 | 42 | 19 |

Except for drugs and prescriptions, the medical care index is made up entirely of services. Since World War II, the prices of services have generally advanced more rapidly than the prices of goods. But the prices of medical care services have risen even more rapidly than those of other services, especially in the last 10 years.

**Percentage Increase in Service Components of the Consumer Price Index**

| Period | Medical care services | All services |
|---|---|---|
| 1936 to 1946 | 26 | 19 |
| 1946 to 1956 | 57 | 48 |
| 1956 to 1966 | 50 | 33 |

Over the two decades since World War II service prices in general doubled, while medical service prices rose 129 percent.

## Components of the Medical Care Price Index

Just as the total Consumer Price Index is made up of many goods and services, so the Medical Care Index is a composite of medical care items whose prices change at widely differing rates.

For example, there have been wide disparities in price movements among services provided by different kinds of physicians, especially in the recent period. In the year ending in June 1966, pediatric fees rose about 2½ times as fast as obstetric fees. Among hospital charges, the daily service charges for hospital rooms went up 7.7 percent; operating room charges, 6.5 percent; and the charges for a diagnostic X-ray (priced to represent in-hospital ancillary services), only 2.5 percent (table 1).

## The Recent Acceleration in Medical Care Prices

Between 1960 and 1965, medical care prices rose fairly steadily at between 2 and 3 percent per year—a slower rate of increase than in the 15 years following World War II. In 1966, however, the Medical Care Index increased 6.6 percent—the largest annual increase in 18 years.

An acceleration in medical prices occurred in the first half of 1966 and was intensified in the second half, as quarterly figures clearly show (table 2).

The 1966 acceleration affected both major components of the Medical Care Index—hospital charges and physicians' fees (table 3). Physicians' fees, which had been rising about 3 percent per year in the period 1960–65, went up 7.8 percent in 1966. This was the biggest annual increase since 1927 (the earliest date for which the physicians'

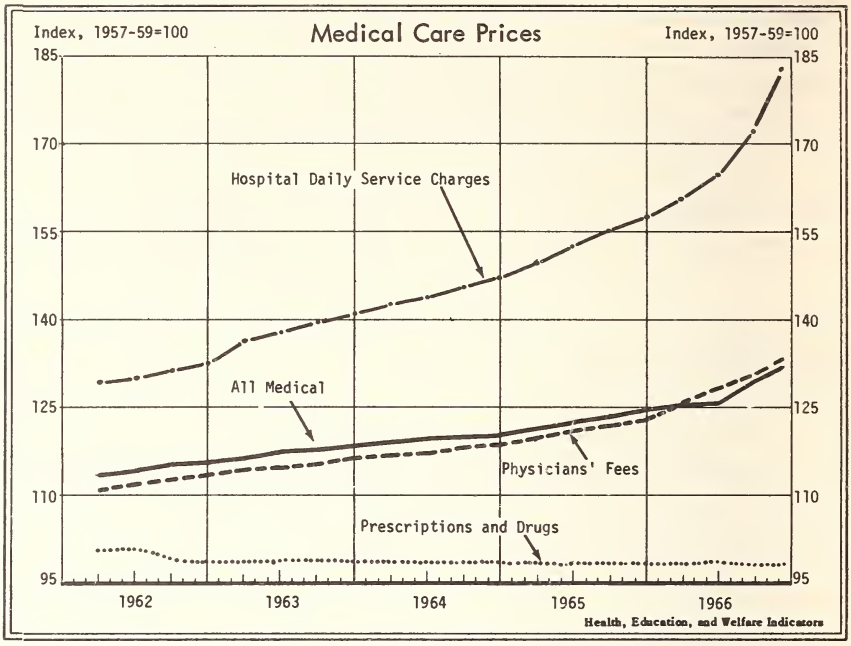



**Table 1.—Medical Care Price Index: Annual Percent Changes by Type of Item**

| Item | Year ending June 30 | | | | | |
|---|---|---|---|---|---|---|
| | 1961 | 1962 | 1963 | 1964 | 1965 | 1966 |
| All medical care | 3.1 | 2.8 | 2.4 | 1.8 | 2.4 | 3.9 |
| Medical care services | 3.8 | 3.4 | 3.1 | 2.2 | 3.2 | 4.7 |
| Physicians' fees | 2.6 | 3.1 | 2.2 | 2.3 | 3.5 | 5.7 |
| Family doctor—office visits | 2.4 | 3.3 | 2.5 | 2.4 | 3.7 | 6.0 |
| —house visits | 2.8 | 3.6 | 2.1 | 2.8 | 3.8 | 7.4 |
| Herniorrhaphy, adult | NA | NA | NA | NA | 2.4 | 4.2 |
| Tonsillectomy and adenoidectomy | 1.9 | 2.1 | 2.3 | 2.9 | 3.1 | 4.4 |
| Obstetrical cases | 2.3 | 3.4 | 1.5 | 2.3 | 2.3 | 3.6 |
| Pediatric care-office visits | NA | NA | NA | NA | 5.5 | 8.5 |
| Psychiatrist-office visits | NA | NA | NA | NA | 2.1 | 4.3 |
| Hospital services: | | | | | | |
| Daily service charges | 8.2 | 6.4 | 6.6 | 4.9 | 5.5 | 7.7 |
| Operating room charges | NA | NA | NA | NA | 3.8 | 6.5 |
| X-ray, diagnostic, upper gastro-intestinal | NA | NA | NA | NA | 1.3 | 2.5 |
| Dentists' fees | .2 | 3.0 | 2.7 | 2.3 | 3.4 | 3.0 |
| Examination, prescription, and dispensing of eyeglasses | 3.5 | 1.7 | .5 | 1.1 | 2.0 | 2.6 |
| Routine lab tests | NA | NA | NA | NA | 1.9 | 2.1 |
| Drugs and prescriptions | −1.1 | −1.5 | −1.3 | −.1 | −.5 | .5 |
| Prescriptions | −3.5 | −3.9 | −2.8 | −1.3 | −1.2 | −.3 |
| Over-the-counter items | NA | NA | NA | NA | .6 | 1.5 |

Source: U.S. Department of Labor, Bureau of Labor Statistics, *The Consumer Price Index.*

fees index is available). Hospital daily charges, which had been rising about 6 percent per year between 1960 and 1965, went up 16.5 percent in 1966—the largest annual increase in 18 years.

The rise in hospital daily charges was especially sharp in the second half of 1966—11.5 percent as compared with 4.5 percent for the first 6 months. In contrast, physicians' fees increased 3.8 percent in each half of 1966.

Medical care prices have been rising faster than other prices throughout the postwar period. The rapid increase in medical care prices in 1966 is at least partly a reflection of the widespread inflationary pressures in the economy. The rate of increase in the Consumer Price Index for 1966 was 3.3 percent—the largest in 15 years.

**Table 2.—Consumer Price Index: Quarterly Percent Increases**

| Quarter | Medical care index | | Consumer Price Index |
|---|---|---|---|
| | All components | Services | |
| *1964* | | | |
| June-September | 0.3 | 0.5 | 0.4 |
| October-December | .5 | .6 | .4 |
| *1965* | | | |
| January-March | .9 | 1.1 | .2 |
| April-June | .7 | .9 | 1.0 |
| July-September | .5 | .6 | .1 |
| October-December | .7 | .9 | .7 |
| *1966* | | | |
| January-March | 1.3 | 1.5 | .9 |
| April-June | 1.4 | 1.7 | .8 |
| July-September | 1.9 | 2.4 | 1.1 |
| October-December | 1.9 | 2.2 | .5 |

**Table 3.—Consumer Price Index: Percent Increases by Type of Component**

| | Percent increase | | |
|---|---|---|---|
| | Average annual 1960–65 | Dec. 1964–Dec. 1965 | Dec. 1965–Dec. 1966 |
| Consumer Price Index | 1.3 | 2.0 | 3.3 |
| All medical care | 2.5 | 2.8 | 6.6 |
| Hospital charges | 6.3 | 6.6 | 16.5 |
| Physicians' fees | 2.8 | 3.8 | 7.8 |
| Drugs and prescriptions | −.8 | 0 | .2 |

# III. Physicians' Fees

About 27 percent of the consumer's health dollar, on the average, is spent for physicians' services. Physicians' fees have been rising for many years, but the increase has recently accelerated. According to the Bureau of Labor Statistics Index, physicians' fees rose 7.8 percent in 1966, as compared with 3.8 percent for 1965.

This section will attempt to answer three questions: (1) What explains the rise in physicians' fees in the last 15 years? (2) What accounts for the recent accelerations? (3) What is likely to happen in the future?

## Supply, Demand, and Doctors' Fees

A doctor is not an ordinary businessman and one might question whether the price of his "product" is governed by the laws of supply and demand. Medical services are extremely personal in nature and their quality varies from physician to physician, from place to place, and from year to year. Any price index necessarily reflects price movements for only one of many possible sets of "physician visits" or surgical procedures.

Moreover, there are strong traditions in medicine which affect physicians' price policy. Denying a patient necessary care because he cannot pay the bill is considered unethical. Many physicians use a sliding scale of fees—charging patients according to their ability to pay. If an epidemic or disaster causes a temporary increase in the demand for their services, physicians do not ration their time by raising their fees—they simply work longer hours and postpone nonessential services.

Nevertheless, it is clear that a substantial and sustained increase in demand without a corresponding increase in supply sooner or later exerts pressure on physicians which leads them to raise their prices. Moreover, doctors are likely to be able to raise fees by fairly large amounts without losing many patients. The amount of medical care which patients seek is relatively insensitive to changes in price for several reasons: (1) A patient with an emergency medical problem has no choice about whether to get treatment; (2) even in nonemergency situations the patient often regards medical care as essential, not optional; (3) the patient seeking medical care usually lacks information about the price of physicians' services or assumes that

more expensive care is better care; (4) the patient is often referred from one physician to another without being given a choice.

### The Rapid Growth of Demand

In the period 1950 to 1965, population grew by 28 percent. Had there been no changes in medical technology, in education, in the incomes of patients, in the age distribution of the population, in urbanization or in residential patterns, the sheer impact of population growth would have added a substantial demand for physician care. But other things did not remain the same. In the period 1950 to 1965, disposable personal income per capita (in 1958 prices) increased by almost 34 percent. Based on the spending habits of Americans, an estimated 10-percent increase in consumer income results in at least a 3.3-percent increase in the demand for physicians' services. Therefore, this income increase would have added a minimum of 11.2 percent to the per capita demand for physicians' services.

The increase in the number of persons in the United States and the increase in income per person would, in the period 1950 to 1965, have added about 41 percent to the demand for physicians' services. Moreover, at least three additional factors increased even further the demand for physicians' services in this period:

1. *The public's faith in doctors and desire for physicians' care has increased as medical practice has become more effective.*—It has been said that at the turn of the century a random patient with a random illness meeting a random physician stood perhaps a 50–50 chance of benefiting from the encounter. Today, the chance is much greater. Medical science has advanced. Medical education has improved. As the public's faith in the power of the physician and of the equipment and drugs that he uses has increased more people have turned to physicians for care. The public's desire for medical care has grown.
2. *Changes in the characteristics of the population—as well as in its size—have tended to increase the demand for physicians' services.*—Women go to doctors more than men; urban people more than rural people; educated people more than uneducated people; young children and old people more than the rest of the population. In general, although the effect is not major relative to the effect of the increase in income and the overall size of the population, groups who use more physicians' services are increasing relative to other groups.
3. *Insurance coverage has expanded greatly.*—The total number of persons covered by surgical expense insurance increased from 54 million in 1950 to 140 million in 1964; those covered by regular medical expense plans with benefits for nonsurgical physicians' fees increased from 22 to 109 million. Once a

patient has insurance, he tends to use more medical services. In emergency situations, of course, the patient has little choice about the amount of care he receives. But most situations are not emergencies; many medical procedures are optional or postponable. There is evidence that insured persons use more medical services than noninsured persons. One study, for example, showed that persons with health insurance were hospitalized for surgery 25 percent more often than persons without insurance. The growth of insurance covering physicians' fees seems likely to have added appreciably to the demand for physicians' services.

### The Slower Growth of the Supply of Physicians

During the period 1950–65, the total number of active physicians increased by 33 percent. During this same period, however, there was a marked downward shift—from 72 percent in 1950 to 62 percent in 1965—in the proportion of all active physicians who were engaged in private practice. Increases occurred in the proportion of physicians employed as full-time staff in hospitals, full-time medical school faculty, and physicians whose primary activity is administration, laboratory medicine, public health, or research. The proportion of physicians in postgraduate training also increased.

Between 1950 and 1965, the number of physicians in private practice increased only 14.3 percent, and there was an actual decline in the total number of family physicians (pediatricians, internists, and general practioners) as more physicians went into other specialties.

The effective supply of physicians' services, however, rose faster than their numbers because physicians' productivity also rose.

### Estimates of Physician Productivity

Some rough indicators of physicians' productivity can be found. Between 1947 and 1964, the median gross income of physicians in private practice rose at an annual rate of over 6.7 percent compared with an average annual increase in physicians' fees of 3.0 percent, as reported by the Bureau of Labor Statistics.[1] Since the median gross income of physicians rose faster than the average fee per visit or procedure, physicians must either have been putting in more hours or their "productivity" (number of patients seen and quantity of care given) must have increased, or both.

Since there is no evidence that the average physician worked longer hours over this period, the difference between the rate of increase in

[1] Source: "Medical Economics." Median gross income is income before subtraction of professional expenses. Adjustments were made for increases in collection rates over time.

physicians' fees and their median gross incomes may be attributed to the increase in the output of physicians' services per physician hour. The rise in physician productivity can thus be estimated at about 3.4 percent per annum between 1947 and 1964. There are indications that most of the increase in physicians' "productivity" took the form of seeing more patients in the same amount of time. One study shows a 24-percent increase (between 1959 and 1964) in patients seen per week by the average physician.

The doctor who sees more patients per hour may be giving a lower level of care. Ideally, one would like a productivity measure which reflected the quality of care given, such as the number of patients cured or health improvements effected.

No quality measure exists, but there are at least four reasons to believe that physicians are using their time more efficiently without lowering the quality of care:

1. *The advance of medical science.*—Powerful new drugs and advanced surgical procedures have clearly made it possible for the present-day physician to treat more patients—and effect more cures—in the same amount of time than could yesterday's physician.
2. *The shift from house to office and clinic visits.*—A recent survey showed that the average general practitioner spends 10 minutes per patient in his office and 30 minutes, on a house call. He has shifted away from house calls, which accounted for 9 percent of all out-of-hospital visits in 1959 and only 5 percent in 1964. In the interim, the number of physician visits in offices expanded by 9 percent, physician visits in hospitals and clinics, by 40 percent. There has also been considerable expansion in the proportion of telephone consultations.
3. *Increases in capital equipment and auxiliary personnel.*—Staff assistants and the elaborate equipment of a modern hospital greatly increase the productivity of the hospital-based physician. And modern medical practice is increasingly hospital oriented. Moreover, doctors' offices are far better equipped than they used to be. There is evidence that the number of employees per physician is increasing and that physicians with more assistants are more productive.
4. *New forms of organization.*—Physicians have grouped themselves in partnerships of one form or another. The Internal Revenue Service reports that between 1958 and 1964, the number of partnerships, groups, and prepaid groups increased by 61 percent (at an annual rate of about 8 percent).

By 1964, the IRS reported that there were 44,500 physicians in 15,300 partnerships or groups. Grouping of physicians makes possible more efficient use of personnel and equipment.

### Explanation of Rising Physicians' Fees

The demand for physicians' services increased by at least 41 percent—and probably considerably more. The total supply of active physicians increased only about 33 percent, while the supply of physicians in private practice increased considerably less.

In response to this considerable pressure of demand on supply, physicians increased their productivity and raised their fees. If the increase in physician productivity had not occurred, the rise in fees would have been even more rapid.

### Changes in the Level of Physicans' Fees During 1966

In the past, physicians' fees have tended to increase faster when the increase in other prices in the economy was accelerating—as it was in 1966. From 1959 to 1965, the average annual rate of increase in the price of physicians' services was twice the average annual rate of increase in the price of all items in the Consumer Price Index. If this average relationship had been maintained during 1966, the 3.3-percent increase in the price of all items in the Consumer Price Index would have been matched by a 6.6-percent increase in the price of physicians' services. In fact, the price of physicians' services increased 7.8 percent during the 12-month period ending December 1966. Thus, less than one-sixth of the recent increase in physicians' fees is "unexpected" on the basis of past trends in the Consumer Price Index.

It is difficult to say with confidence how much impact medicare had on physicians' fee increases in 1966. There was no marked acceleration in physicians' fees after medicare came into effect on July 1; increases in the third quarter were in line with those in the first half of the year.

If anticipation of medicare were a major cause of fee increases, one would expect to find fees charged the elderly moving up faster than fees charged to younger patients in the period just before medicare went into effect. A special tabulation showed, however, that the price indexes for child and adult care moved up more rapidly, during the 6-month period ending June 1966, than five special indexes of surgical and medical procedures particularly applicable to aged persons. Furthermore, for those physicians who increased their fees during the first half of 1966, the average percentage increase was somewhat lower than for those who increased their fees in 1965. The major impetus for movement in the Consumer Price Index for physicians' fees came from the fact that more physicians were adjusting their fees than in earlier periods, not from larger percentage adjustments. During the

first half of 1966, physicians who raised their fees for office visits (19 percent of all physicians) raised them by an average of 24 percent. The majority of physicians did not raise their fees for the services measured.

Thus, the available evidence leads to the conclusion that medicare has not had a significant effect upon the recent acceleration of the rate of increase in physicians' fees.

It should be strongly emphasized that the above conclusion relates to physicians' customary charges—fees the physician charges to most of his patients for given services. Starting July 1, 1966, the average fees of physicians, and their incomes, have increased because of the payment of customary charges under medicare for the aged, many of whom were previously paying charges lower than the customary charges of physicians. Therefore, many aged persons will now find that they are being charged more for a given service, since their physician is now charging them the same fee he charges to the majority of his patients.

Also, certain groups of physicians have raised their customary charges significantly in recent months. In particular, the impressions of a number of hospital administrators and medicare carriers lead to the conclusion that some hospital-based pathologists and radiologists have raised their customary charges by substantial amounts. The medicare law requires separation of professional charges from hospital costs and payment from separate sources. The law has led some hospital-based physicians to bill their patients directly rather than through the hospital billing system. Some pathologists and radiologists have taken advantage of this provision in the medicare law to establish new higher levels for their customary charges.

### Outlook for the Future

In the years ahead, the demand for physicians' services will increase. Between 1965 and 1975, population can be expected to grow by about 17 percent. Rising income can be expected to add another 12 percent to demand. Demographic changes will also add somewhat to the growth in demand. Medicare will increase the utilization of physicians' services by the elderly—the impact of this program on total demand might be on the order of 2 percent. An analysis of the impact of title XIX of the Social Security Act Amendments of 1965 must wait until more of the States have implemented this new legislation.

Total demand seems likely to increase by about one-third, exclusive of increased utilization which may result from changes in the desire for physicians' service, the impact of title XIX, and the growth in private insurance coverage. The U.S. Public Health Service estimates that in the 1965–75 decade, there will be an increase of only 17 percent in

the total number of physicians. If the current trends continue, the rate of increase in the supply of "family physicians" (general practitioners, internists, and pediatricians) will certainly be less than the rate of increase in the total supply of physicians. In the absence of major productivity increases, a substantial gap will exist between the amount of medical care Americans will try to purchase and the supply physicians will be able to offer.

The pressure of demand on a slowly expanding supply is likely to result in price increases. These pressures will be especially large in the area of child care where there has been decline in the number of physicians (pediatricians and general practitioners) available per 100,000 children.

Since the time lag in producing physicians is considerable, a major increase in the supply of physicians beyond the projected levels could not be achieved by 1975. It is not clear, moreover, that any feasible expansion of physician supply would have a significant impact upon the price level for physicians' services or assure that those receiving insufficient care would get better care.

For the near future, primary emphasis should be given to mechanisms to increase the efficiency of existing physicians. Such changes would be less costly, could be implemented more rapidly, and would have significant impact because they involve all existing practicing physicians. A 4 percent increase in physician productivity in 1966 would add the equivalent of 11,700 physicians to the supply—more than the annual output of all American medical schools.

Although special efforts will be required to raise productivity in order to fill the predicted gap between supply and demand, there is some evidence that there exists a significant potential for further increases in the productivity of physicians. For example, while 23 percent of all physicians in private practice in 1964 employed four or more auxiliary workers, almost half of them employed less than two auxiliary personnel.

Increases in efficiency might be achieved through new types of organizational structures, the growth of group practice plans, and through the use of new types of personnel that would relieve the physician of duties that individuals with less training could perform.

# IV. Hospital Costs and Charges

Hospital services are the most expensive form of medical care. A patient in a modern, general, short-term hospital gets a tremendous variety of services—room and board, laundry, pharmaceuticals, laboratory tests, access to highly specialized facilities and equipment, and the services of house physicians, nurses, technicians, and an army of other personnel. These services do not come cheaply; average expense per patient per hospital day in 1965 was $44.48.

In recent years, an increasing share of the consumer's health dollar has been spent for hospital care. Hospital care accounted for 24 percent of private medical expenditures in 1950 and 30 percent in 1965. The proportion of personal income after taxes which was spent on hospital care almost doubled between 1950 and 1965 (going from 0.95 to 1.80 percent), while the proportion spent on physicians' services increased 32 percent (from 1.26 to 1.66 percent of personal income after taxes).

The rise in the proportion of consumer health budgets being devoted to hospital care reflects both increased use of hospital services by the population and the rising price of these services. The per capita demand for hospital services has been rising faster than the demand for other medical services (except drugs). The supply of hospital beds and other facilities has also increased but, at the same time, the cost per patient of delivery of services has gone up. Increasing demand and rising costs have led to sharply rising prices.

The consumer would benefit if ways could be found to make hospitals operate more efficiently without reducing the quality of care. He would also benefit if less expensive types of medical care could be substituted for hospital services without reducing the effectiveness of the care, or at least if the present trend toward increasing use of hospitals in preference to other medical services could be halted.

### The Hospital Sector of the Economy

This report is concerned with short-term, non-Federal hospitals; the kind of hospitals that most private citizens use. It excludes long-term care facilities, such as psychiatric and tuberculosis hospitals, as well as military, veterans, and other Federal hospitals. The 5,700 non-Federal, short-term hospitals vary greatly in size; many are small, but average size is increasing.

**Percent Distribution of Hospitals by Size and Number of Beds**

| Number of beds | Hospitals | | Beds | |
|---|---|---|---|---|
| | 1953 | 1965 | 1953 | 1965 |
| Under 50 | 44 | 33 | 12 | 8 |
| 50–199 | 42 | 45 | 43 | 35 |
| 200–499 | 13 | 20 | 38 | 45 |
| 500+ | 1 | 2 | 8 | 12 |

Some are run by State or local governments, some by churches and other private nonprofit groups; relatively few are proprietary.

**Percent Distribution of Hospital Beds by Control, 1965**

| | |
|---|---|
| All | 100 |
| State and local | 24 |
| Private, nonprofit | 70 |
| Proprietary | 6 |

Hospitals are complicated institutions with objectives going beyond the treatment of medical conditions. They sponsor research, provide training, and sometimes serve as bases for religious works. Their control, moreover, is divided among administrators, trustees, physicians, and technical personnel. The relationship with the community is no less complex, for hospitals must be responsive to validating agencies, including insurance companies; other professional organizations; local, State, and Federal governments; and philanthropic supporters.

## Hospital Costs

Wages and salaries are major factors in hospital costs. Payroll accounts for 62 percent of total hospital expenses. This percentage rose steadily in the immediate postwar period (from 53 percent in 1946 to 62 percent in 1956) but has stayed remarkably constant for the last decade.

Hospital wages and salaries per patient day have been rising steadily since World War II. Between 1960 and 1965, wages and salaries per patient day rose 6.4 percent per year—almost exactly the same as the rate of increase in hospital charges.

This rise in wage cost per patient day has two elements:

1. *The number of patients cared for per employee has been falling.*—Many industries in recent years have been increasing output by substituting automated equipment for manpower. Some examples of such substitution can be found in hospitals but, in general, more elaborate equipment and increased standards of care have meant an increased demand for skilled manpower. At the same time, hospitals have been hiring an in-

creased number of unskilled and semi-skilled workers to fill in for skilled personnel in short supply. As a result, the productivity of hospital manpower by any *conventional* index (patients cared for per employee, employees per patient day, etc.) has been falling, not rising.[2]

2. *Average earnings of hospital employees have been rising.*— Average hospital payroll per employee went up 4.7 percent per year between 1960 and 1965. Average wages of all employees in the service industries went up 3.6 percent per year in the same period. The rise in hospital wages resulted both from increasing skill requirements in hospitals (more technicians and professionals) and from increased wage levels for traditionally low-paid hospital jobs. Despite rising average wage levels, a large proportion of hospital employees still earn only very low wages. In mid-1963, the Department of Labor estimated that 29 percent of all hospital employees earned less than $1.25 an hour.

| Nonprofessional service occupation | Percent earning less than $1.25 per hour |
|---|---|
| Nursing aides | 43 |
| Maids and porters | 48 |
| Flatwork finishers (machine ironers) | 54 |
| Kitchen helpers | 55 |
| Machine dishwashers | 58 |

In 1963, there were ironers earning less than 45¢ an hour in Memphis; maids and kitchen helpers earning less than 50¢ an hour in Atlanta; kitchen helpers, less than 70¢ an hour in Dallas; ironers, less than 75¢ an hour in Baltimore.

The new minimum wage law, which covers hospital employees for the first time, provides that hospital employees must be paid a minimum of $1.00 per hour starting in 1967, $1.15 per hour starting in 1968, and $1.30 per hour starting in 1969. The new minima are being phased in so slowly that they are unlikely to raise the wage bill much above what it would have been anyway. If hospital staff per patient continues to increase at recent rates, the total wage bill per patient day seems likely to increase from $27 in 1965 to about $38 by 1970, or 7 percent per year.[3]

[2] See page 30 for qualifying remarks with regard to the measuring of hospital productivity.

[3] Assumes 4 percent per year average wage increase for workers above minimum wage.

## Non-Wage Costs

About 37 percent of hospital costs are non-wage costs—expenditures for food, drugs, and other commodities—which vary with the number of patients in the hospital and the price level of the commodities in question.

A large share of non-wage costs, however, are fixed charges or readiness-to-serve costs, which do not vary with the number of patients in the hospital: maintenance, heat, light, and power as well as depreciation charges which represent the annual consumption of capital by wear and tear and obsolescence. Generally, about 5 percent of hospital costs are for depreciation and at least 20 percent are for other non-wage readiness-to-serve costs. Such costs, predetermined by the magnitude of capital investment rather than the volume of services provided, reflect the size and elaborateness of the hospital's plant and equipment.

Over the years, hospitals have become better equipped with specialized facilities. The following table shows increases between 1960 and 1965 in the proportion of voluntary short-term hospitals which had certain specialized types of facilities.

**Percent of Voluntary Short-Term Hospitals with Selected Facilities**

| Facilities | Percent | |
|---|---|---|
| | 1960 | 1965 |
| Pathology laboratory (with pathologist) | 60. 5 | 67. 1 |
| Premature nursery | 61. 0 | 63. 7 |
| Intensive care unit | 11. 1 | 32. 5 |
| Electroencephalography | 17. 7 | 31. 7 |
| Rehabilitation unit | (1) | 8. 4 |
| Dental facilities | 30. 6 | 36. 4 |

[1] Not listed.

Source: American Hospital Association, "Guide Issue" of *Hospitals*, August 1961, 1966.

In addition to specialized care facilities, hospitals have been placing increasing emphasis on such nonmedical comforts as private rooms, air-conditioning, and individual baths or toilets. Some of these features bring operating economies which at least partially offset their operating costs. Air-conditioning, for example, increases employee productivity and reduces airborne dirt, as well as making patients feel better. Single rooms facilitate higher occupancy; other items save some nursing time. Many of these amenities, however, add to operating costs as well as to patient comfort.

New hospital construction has become steadily more expensive. In the 5-year period, 1960–65, building and fixed equipment costs per square foot in new hospital construction went up about 4.1 percent per year. In the same period, prices for nonresidential construction in general rose about 1.9 percent per year. The faster rise in hospital construction costs reflects increasingly expensive equipment and design.

The increased plant and facilities of hospitals show up in hospital asset figures. The American Hospital Association estimates that plant assets of short-term hospitals (land, buildings, equipment, and supply inventories) increased from $12,976 to $16,615 per bed between 1960 and 1965.[4] Other assets (cash, receipts, endowments, and similar items) showed little increase over what would have been expected due to dollar value changes.

## Reasons for the Accelerations in Hospital Charges

The 1966 acceleration in hospital prices is hardly surprising. Rising wages in tightening labor markets were bound to exert upward pressure on hospital costs. Several nurses' strikes occurred. Preliminary evidence indicates that nurses' salaries increased somewhat faster in 1966 than in previous years.

In the years 1960 to 1965, consumer prices increased at an average annual rate of 1.3 percent while hospital prices increased at 5.8 percent. If this average relationship had been maintained, the 3.3-percent increase in consumer prices would have implied a 14.7-percent increase in hospital charges in 1966, but hospital charges actually increased 16.5 percent, which meant that 11 percent of the rise in hospital prices was "unexpected."

The fact that hospital charges rose especially rapidly in the second half of 1966 suggests that medicare, which came into effect July 1, contributed to the increase. Medicare raised hospital occupancy rates in many places. The total occupancy rate was 4 percent higher in August 1966 than in August 1965. In general, however, higher occupancy rates would be expected to lower, not raise, hospital costs per patient day. The influence of medicare probably came mainly through the impetus it provided to hospitals to reexamine their costs and charges. In reviewing charges, many hospitals decided to increase them, perhaps sooner than they otherwise would have.

## The Productivity Problem

A major obstacle to the analysis of changes in the amount of care received per dollar of expenditure is that there are no generally accepted measures of output, input, and productivity of the hospital sec-

[4] Assets in plant and equipment divided by number of non-Federal short-term beds.

tor. Productivity, the ratio of output to input, may be calculated only if the changes in output and input are measurable.

Length of stay is one possible measure of hospital productivity. Hospitals could be considered more productive if the length of stay, in the face of an unchanged level of illness in the population was shortened.

In the last decade, the average length of stay has remained remarkable stable at 7.6–7.7 days. But there has been a change in the distribution of lengths of stay within the short-term general hospital. The National Center for Health Statistics lists 33 conditions for hospitalization. Within this list, in the period 1958–60 to 1963–64, 23 conditions required shorter stays, while 10 conditions showed increased lengths of stay. Thus, even though within the same period that the cost per patient day increased from $31.30 to $41.19, it may be that the decrease in the length of stay for certain conditions, such as ulcer of the stomach and duodenum, and diseases of the eye and visual impairments, was such that the cost of individual stays for these conditions decreased or rose only slightly.

More systematic studies of hospital records and expenditures will be necessary before conclusions can be drawn about changes in hospital productivity as measured by length of stay.

Ultimately, of course, hospital effectiveness should be reflected in the health of the population. With the present state of knowledge, however, it is impossible to separate the impact of hospital care from the many other factors which cause changes in mortality or morbidity rates.

### The Increasing Demand for Hospital Services

Americans have been using hospitals to an increasing extent in recent years. Between 1956 and 1965, admissions to non-Federal, short-term general hospitals rose from 120 to 138 per thousand population. The number of days spent by patients in these hospitals is now slightly more than one per person per year.

The same factors that have increased the demand for all medical care have operated to increase hospital utilization: demographic changes; rising incomes; wider insurance coverage. Four out of five persons now have hospital insurance of some sort and benefit levels have been rising.

Even within insured groups, however, hospital utilization has apparently been rising. A study of one insured population showed an average annual increase of 3 percent in patient days per thousand people over the period 1947–59. Within income groups, hospital utilization rates have apparently also been rising.

Use of hospitals has been increasing faster than visits to physicians. At least two factors are operating to increase hospital use in preference to less expensive forms of care:

1. More patients have hospitalization insurance than have coverage for other types of medical care.

   A doctor may put his patient in the hospital rather than treat him at home or in the office since the patient's insurance company will pay the bill. Elderly or convalescent patients may be put in hospitals rather than nursing homes in order to take advantage of insurance coverage.
2. Hospitals may be overutilized to suit the convenience of physicians. A busy doctor may put a patient in the hospital to conserve his own time.

It has been suggested that increased hospital utilization is at least partly a result, rather than a cause, of increases in the number of available beds. Studies show that doctors tend to keep patients in the hospital longer if beds are available and that the principal determinant of the level of hospital use in a community is the availability of beds, not the price of care or the characteristics of the population.

Also, the demand for hospital services is variable. Few people want to be in the hospital in the summer or over the Christmas holidays—if they have a choice. Epidemics and seasonal variations in illness patterns and birth rates bring wide variations in the demand for hospital beds.

In the short run, hospitals can meet an increase in demand by shortening lengths of stay and increasing occupancy rates. Up to a point, higher occupancy rates mean lower costs per patient. At present, most hospitals are underutilized on weekends and in the summer. Fewer patients are admitted on Fridays and Saturdays than other days and those who are admitted stay longer, presumably because they wait over the weekend for treatment.

Several experiments have shown that substantial reductions in cost per patient can be achieved through improved planning of hospital usage. Cooper Hospital in Camden, N.J., by using its facilities more intensively on weekends, raised the average occupancy rate of a 393-bed medical-surgical section from 340 to 380—the equivalent of adding about 50 beds. Operating costs per patient day were reduced, and capital construction was avoided.

A substantial and sustained increase in demand can be met by adding more beds in new or existing hospitals. The present trend is toward larger hospitals, and there is reason to believe that larger hospitals can provide the same services at lower cost per patient than can small hospitals. The economies of larger scale are often obscured by the fact that larger hospitals provide more services and facilities than do small hospitals.

Regional planning councils have been effective in some parts of the country in assuring the construction of hospitals of efficient size. An effective council will have an impact on three areas: nonwage cost, the level of utilization of hospitals, and the productivity of hospitals. Conceptually, hospital planning councils attempt to influence these three areas by rearranging the level of capacity of the hospital sector. This may involve combining services of hospitals, merging two or more hospitals, refusing support of the construction of unneeded capital facilities, arranging cooperative laundries, and other multihospital facilities, and encouraging, where appropriate, the use of less expensive medical facilities such as nursing homes and extended care facilities.

It is likely that group practice is more efficient than solo practice and that prepaid group practice is preferable to fee-for-service medicine from the point of view of the efficiency of the entire system of medical care delivery. There is evidence that subscribers to prepaid group health plans have considerably lower hospital utilization rates than comparable nonsubscribers. Perhaps they receive more comprehensive medical care. Or perhaps the prepayment of the patient's expenses (nonhospital as well as hospital) may reduce the incentive to overutilize expensive hospital care relative to other services.

# V. Drug Prices

Drug prices have not been major contributors to rising medical prices. The drug component of the Consumer Price Index increased 13.3 percent over the period 1950 to 1965, or somewhat less than 1 percent per year on the average. There was no appreciable change in the drug component of the CPI during the 6-year period ending December 1966. The prices of prescription drug items in the CPI (as contrasted with over-the-counter drug items) actually declined by 11.7 percent between 1960 and 1966.

Industry sources give a slightly different picture. The average retail price per prescription, reported in The American Druggist, increased at an annual rate of about 2.3 percent between 1955 and 1965, and at slightly less than 1 percent per year between 1960 and 1965.

The "average prescription price" reflects the use of new drug products, and changes in the quantities and prices of drugs prescribed. In contrast, the CPI reflects changes in the unit price of the same or similar drug items over periods of time. It is difficult to adjust the drug component of the CPI for the rapid changes in the character of the drugs prescribed. By the time a prescription item is incorporated into the index, its price may have fallen to a lower level than in previous years. In the interim, newer drugs are being prescribed at a higher price level, and the drugs included in the CPI may not reflect such price movements. Most of the difference between the increase in the "average prescription price" and the change in the drug component of the CPI can be attributed to the use of new and improved drug products and changes in the quantities prescribed.

### Consumer Expenditures on Drugs

Drug expenditures account for a substantial proportion of total consumer expenditures for medical care. However, the rapid increase in hospital charges and physicians' fees has led to a decline in the proportion of the consumer's medical care dollar spent on drugs. Drug expenditures accounted for about 20 percent of consumer medical care expenditures in 1950 and 16.4 percent in 1964.

Despite the fact that drug prices have not risen as rapidly as the CPI, the percentage of disposable income spent on drugs increased

from 0.8 percent in 1950 to 1 percent in 1964. Therefore, there was a significant increase in the use of drugs by the average consumer.

In recent years, there has been a marked increase in the use of prescription drugs as opposed to over-the-counter drug items. In 1959, the average American family purchased 11 drug prescriptions and spent $33 on prescription drugs. By 1965, the number of prescriptions per family had risen to 14, and average family expenditures on prescription drugs were $46.

There are at least five reasons why there has been a sharp increase in consumer expenditures for drugs during the postwar period:

1. Drugs, which have declined in price relative to the prices of other forms of medical care, have been substituted for more expensive forms of medical care.
2. Families spend more on drugs as their income increases. In the year ending June 30, 1965, for example, the per capita expenditure for prescribed drugs in families with incomes over $10,000 was 22 percent greater than the comparable outlay for individuals where the family income fell between $4,000 and $7,000.
3. The efficacy of drugs has improved significantly in recent years. Modern advances in drug therapy have contributed to the control of such diseases as tuberculosis and syphilis.
4. There has been an increase in consumers' desires for certain kinds of drugs. For instance, from 1952 to 1963, the retail sales of sedatives and tranquilizers increased 535 percent.
5. The increase in the proportion of elderly persons in the population has resulted in an increase in the demand for drugs. Average expenditures on all drug items by persons age 65 and over are 2½ times as high as those for the entire population.

### Reasons for Concern About the Cost of Drugs

The cost of drugs imposes a major financial burden upon many American families. A large proportion of total drug expenditures are incurred by persons who are high users of medical care. For example, in 1962, 10 percent of those persons over the age of 65 incurred 40 percent of the expenditures on drugs by all persons over the age of 65. But out-of-hospital drug costs are generally not covered by health insurance. In 1965, about 3 million persons were enrolled in plans providing drug insurance coverage. However, 80 percent of these individuals had only partial coverage. Another 53 million persons were enrolled in plans which generally provided partial drug coverage after their drug expenditures exceeded a sizable deductible provision.

Although average drug prices are not rising appreciably, there is ample evidence that they are higher than they would be if there were

greater price competition in the industry, either at the manufacturing or at the retail level. The pharmaceutical industry is characterized by high concentration, high advertising costs, and intense nonprice competition.

Drug manufacturers attempt to differentiate their brand names from the generic name of the drug through intensive advertising campaigns. For the 22 major pharmaceutical companies, the Kefauver Committee found that the selling expenditures of drug manufacturers accounted for 25 percent of the total sales dollar. The drug industry spends about $3,000 per doctor per year in advertising to the medical profession. Since the rapid advances in drug therapy during recent years have made it impossible for any physician in private practice to read and evaluate all of the information on new drugs, doctors obtain a great deal of their information about the efficacy of drugs from the manufacturer. The "detail men" of pharmaceutical companies provide a major source of new information to physicians on the advantages or disadvantages of their drug products.

A physician frequently prescribes a costly brand-name product when an equivalent lower-cost drug could be made available to his patient under the generic name. The doctor may be unaware of the existence of the less expensive drug, or he may be more familiar with the effects and dosage of the brand-name product. He may also be uncertain about whether two drugs with the same generic name are actually equivalent in therapeutic value. Although there are a number of different sources and formularies which describe the merits of many drugs, there exists no official or authoritative compendium which a doctor can consult for information about the efficacy of a drug. Moreover, even if the doctor prescribes a drug by its generic name, the pharmacist has no incentive to give the consumer the least-cost generic drug.

Brand-name prescribing raises the cost of drugs not only to patients but also to the taxpayer when drug costs are covered by public programs. There is considerable sentiment in Congress to require or encourage generic purchasing or prescribing of drugs under all Federally financed programs. Before such legislation becomes feasible, however, doubts about the therapeutic equivalence of drugs with the same generic name must be erased. A major study should be undertaken of the most frequently prescribed drugs to determine the efficacy of brand-name products and their supposed generic equivalents.

# APPENDIX

## Medical Care Price Components of the CPI, Annual Averages, 1946-66

[1957-59=100]

| | 1966 | 1965 | 1964 | 1963 | 1962 | 1961 | 1960 | 1959 | 1958 | 1957 | 1956 | 1955 | 1954 | 1953 | 1952 | 1951 | 1950 | 1949 | 1948 | 1947 | 1946 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| All medical care, total | 127.7 | 122.3 | 119.4 | 117.0 | 114.2 | 111.3 | 108.1 | 104.4 | 100.1 | 95.5 | 91.8 | 88.6 | 86.6 | 83.9 | 81.1 | 76.9 | 73.4 | 72.0 | 69.8 | 65.7 | 60.7 |
| Medical care services | 133.9 | 127.1 | 123.2 | 120.3 | 116.8 | 113.1 | 109.1 | 104.8 | 100.0 | 95.3 | 91.4 | 88.0 | 85.5 | 83.0 | 80.1 | 75.3 | 71.7 | 70.1 | 67.6 | 63.3 | 58.4 |
| Physicians' fees | 128.5 | 121.5 | 117.3 | 114.4 | 111.9 | 108.7 | 106.0 | 103.4 | 100.0 | 96.7 | 92.7 | 90.0 | 87.0 | 84.5 | 82.3 | 78.8 | 76.0 | 74.8 | 73.5 | 70.7 | 66.4 |
| Family doctor— | | | | | | | | | | | | | | | | | | | | | |
| Office visits | 128.7 | 121.2 | 116.8 | 113.9 | 111.1 | 107.9 | 105.4 | 103.4 | 100.1 | 96.5 | 93.3 | 90.8 | 88.4 | 85.0 | 82.2 | 78.9 | 76.2 | 75.2 | 74.0 | 71.1 | 66.7 |
| House visits | 133.4 | 124.9 | 119.9 | 116.3 | 113.7 | 110.1 | 106.9 | 103.8 | 99.9 | 96.2 | 90.6 | 87.3 | 83.8 | 82.1 | 80.3 | 77.9 | 75.4 | 74.0 | 72.4 | 70.6 | 66.4 |
| Obstetrical care | 123.0 | 117.8 | 115.2 | 112.5 | 110.7 | 107.3 | 105.0 | 102.8 | 99.9 | 97.3 | 93.8 | 90.8 | 85.2 | 81.4 | 79.7 | 72.0 | 67.7 | 66.9 | 66.0 | 61.8 | 57.5 |
| Pediatric care office visits [1] | 114.3 | 106.1 | 101.5 | | | | | | | | | | | | | | | | | | |
| Hospital services: | | | | | | | | | | | | | | | | | | | | | |
| Daily service charges | 168.0 | 153.3 | 144.9 | 138.0 | 129.8 | 121.3 | 112.7 | 105.5 | 99.9 | 94.5 | 87.5 | 83.0 | 79.2 | 74.8 | 70.4 | 64.1 | 57.8 | 55.7 | 51.5 | 44.1 | 37.0 |
| Operating room charges [1] | 113.7 | 106.4 | 101.9 | | | | | | | | | | | | | | | | | | |
| X-ray, diagnostic, upper GI [1] | 105.7 | 102.1 | 100.7 | | | | | | | | | | | | | | | | | | |
| Dentists' fees | 121.4 | 117.6 | 114.0 | 111.1 | 108.0 | 105.2 | 104.7 | 102.7 | 100.2 | 97.2 | 94.9 | 93.1 | 92.2 | 89.2 | 86.4 | 84.6 | 81.5 | 79.6 | 76.5 | 72.6 | 67.0 |
| Examinations, prescriptions, dispensing of eye glasses | 116.1 | 113.0 | 110.7 | 109.3 | 108.6 | 107.0 | 103.7 | 101.1 | 100.0 | 99.0 | 95.3 | 93.8 | 92.5 | 93.7 | 94.7 | 93.6 | 89.5 | 88.7 | 85.9 | 82.4 | 79.3 |
| Routine lab tests [1] | 105.7 | 103.5 | 101.6 | | | | | | | | | | | | | | | | | | |
| Drugs and prescriptions | 98.4 | 98.1 | 98.4 | 98.7 | 99.6 | 101.1 | 102.3 | 102.2 | 100.6 | 97.2 | 94.7 | 92.7 | 91.7 | 90.7 | 89.9 | 89.1 | 86.6 | 85.6 | 84.3 | 80.1 | 74.6 |
| Prescriptions | 90.6 | 90.8 | 91.8 | 93.0 | 95.3 | 99.2 | 102.6 | 103.0 | 100.7 | 96.3 | 93.2 | 90.4 | 89.2 | 87.5 | 87.5 | 86.4 | 82.4 | 80.3 | 78.4 | 72.4 | 65.9 |
| Over-the-counter items [1] | 102.4 | 101.3 | 100.6 | | | | | | | | | | | | | | | | | | |

[1] December 1963=100.

Source: U.S. Department of Labor, Bureau of Labor Statistics.

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